

AN 1174. h. 22
ACCOUNT¹⁰

Of the SUCCESS of
INOCULATING
THE
SMALL POX
In *GREAT BRITAIN*.

WITH A
Comparison between the Miscarriages
in that Practice, and the Mortality of
the Natural **SMALL-POX**.

Humbly Dedicated to
Her ROYAL HIGHNESS the
PRINCESS of *WALES*.

By JAMES JURIN, M. D. Secretary
to the Royal Society, Fellow of the College
of Physicians, and Reader of Anatomy at
Surgeons-Hall.

*Si quid novisti reclius ipsis,
Candidus imperti.*

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A
ACCOUNT
OF THE SERVICES OF
INCULATING
THE
XO. J. M. 2
IN
GERMANIA
WITH
THE
PRINCES OF WYSES

THE ROYAL HISTORIE OF
PRINCES OF WYSES
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THE
XO. J. M. 2
IN THE
PRINCES OF WYSES

DEDICATION



T O

Her Royal Highness

T H E

Princess of WALES.

M A D A M,



HE great and undeserv-ed Honour you have been pleas'd to grant me, of laying these Pa-pers at the Feet of your ROYAL HIGHNESS, justly demands the

DEDICATION.

the most thankful Acknowledgement : Inasmuch, as it must be a Means of preserving me from the Censures, or Suspicions of those, whom my own Character, little known in the World, may not satisfy of the Impartiality and Regard to Truth, which I have observ'd therein. For it will not surely be imagin'd, that I should presume to offer to so Great, so Good, and so discerning a PRINCESS, any Account of a Matter of so much Consequence to Mankind, but what is in all Respects just and true, to the best of my Knowledge.

It is, MADAM, by such an Account, that the Practice of Inoculation must stand, or fall. If upon a fair and exact Balance of the good

DEDICATION.

good and ill Success of it; it appear in the main to be beneficial to Mankind; it will in Time, in despite of Clamour and unreasonable Opposition, be reckon'd among the many Blessings, for which these Nations, under the Divine Providence, are indebted to the Illustrious House of BRUNSWICK: And if it prove the contrary, I need not say, that neither the Name and powerful Patronage of your ROYAL HIGHNESS, nor the happy Success it has been attended with on the growing Hopes of BRITAIN, will be able to protect it. For if this should be the Case, I am well assured, that the same Noble and God-like Motive of doing Good, which has hitherto prompted you to countenance this Practice, will then no less powerfully induce you to abandon

DEDICATION.

abandon and discourage it. I am, with the greatest Submission, Respect, and Duty,

MADAM,

Your ROYAL HIGHNESS's

Most obedient,

Most faithful, and

Most devoted Servant,

J. JURIN.



A N
 ACCOUNT
 O F
 The Success of Inocula-
 ting the SMALL POX
 in Great Britain, &c.



HE Disputes about the Practice of Inoculating the SMALL POX, like many of our other Differences, have been carry'd to so great a Height, that it is difficult for any one to write upon this Subject, without being drawn into Controversy, even tho' he delivers only Matter of Fact, or the undeniable Consequences drawn from it, and that with the greatest Impartiality, and the strictest Regard to Truth.

B.

The

Tho' such a Procedure, one would imagine, should so far entitle the Writer to the good Nature and Protection of the World, as to secure him from the Attacks of either Party ; especially as in acting thus, he cannot favour or prejudice either of them, any otherwise than as the Facts themselves declare for, or against them. At least, those who contend only for Truth, ought never to be out of Humour with him, who indifferently furnishes either Side with the proper Materials for the Support of their Opinion, or the Conviction of its being not to be maintain'd.

With this Design I laid before the World a little * Piece the last Year, and intend, God willing, to continue so doing, from Year to Year, till the Practice of Inoculation shall either be establish'd on a firm and lasting Foot, or shall be justly exploded ; the Fate thereof being, as I conceive, only to be determin'd by Matter of Fact and Experience faithfully related.

In Order to be able to do which, I have used my best Endeavours, with the Assistance of my Friends, to procure the most Authentick Accounts I was able ; and I shall be thankful to all Persons, who at any Time hereafter, will be pleased to send me well attested Relations of any Particulars relating to the Success of this Practice, bad as well as good ; all which, they may be assured, shall be justly represented.

To impose upon the World in any Particular, is disingenuous and base ; but to deceive them in an Affair so nearly concerning the

Lives

* Letter to Dr. Cotesworth.

Lives of Mankind, is a Wickedness worthy of the utmost Abhorrence and Detestation. I hope none, that know me, will think me capable of any Thing so criminal; and as for others, I beg they will not too easily give Credit to flying Reports, with which the World is too often amused, without any just Foundation; but that, in Case of Doubt about any Thing which I shall here deliver, they will be pleased to give themselves the Trouble of perusing the Materials in my Hands, which I shall carefully preserve, and be ready to shew them for their Satisfaction, as Vouchers of my Fidelity.

This Controversy, though drawn out into many Particulars, seems principally to turn upon the two following Points.

1. Whether the Distemper given by Inoculation be an effectual Security to the Patient, against his having the Small Pox afterwards in the natural Way?
2. Whether the Hazard of Inoculation be considerably less than that of the natural Small Pox?

If these two Points were effectually settled, there would, I suppose, be an End of the Dispute, at least among Physicians. For, if either of them be fairly determin'd in the Negative, the Practice of Inoculation must on all Hands be given up. And on the other Hand, if the Test of Experience should plainly

declare for the affirmative Side of both these Questions, I doubt not but that every Gentleman, who has the Honour to serve his Country in the Capacity of a Physician, will have Integrity and Humanity enough to declare himself honestly and openly in Favour of the Practice. At least, he will consider, whether it will be for his Reputation, when his Friend and his Patient shall put his Life, or the Lives of his Children, into his Hands, to amuse himself with Theological Disputes and Scruples, whether it be lawful to save them. For if the Practice of Inoculation be really found to be a Means of preserving Life, it will not be easy to make the World believe, that it is criminal to use it.

As to the first, therefore, of these Questions, though it will require a considerable Length of Time, and a much greater Number of Experiments than have yet been made, before it can be absolutely determin'd ; yet thus much may at present be said, that our Experience, as far as it goes, has hitherto strongly favour'd the affirmative Side. For tho' many Trials have been purposely made by Physicians and others, both upon Children and grown Persons, who have had the Small Pox by Inoculation, in causing them not only to converse with, but to handle, to nurse, and to lie in the same Bed with others sick of the natural Small Pox ; yet there is no Instance, as far as I have been able to learn, of any one Person either in *Turkey*, *New-England*, or here at Home, who has receiv'd the Small Pox by Inoculation, that has afterwards had it in the na-

atural Way. If any such Case shall hereafter come to my Knowledge, I shall not fail to lay it faithfully before the World ; tho' it is to be observ'd, that a single Instance or two of this Kind, out of a very great Number of Persons inoculated, ought not in Reason to overthrow the Practice. For it cannot be expected, that a Person who receives the Small Pox by Inoculation, should be safer from having it again, than one that has undergone it in the natural Way ; and we are not certain, that the Small Pox does never, tho' perhaps exceeding rarely, happen twice naturally to the same Person. For my own Part, I have never known it : But my ingenious Friend, Mr. *Isaac Masssey*, Apothecary, whom I the rather name, because he is known to be no Friend to Inoculation, has assur'd me, that he saw the same Person twice undergo the natural Small Pox. This, however, undoubtedly happens very feldom ; but if it does happen in the natural Way, it may happen likewise after Inoculation ; and consequently, a Person who has receiv'd the Distemper by this Means, must content himself with no greater a Degree of Security, than if he had undergone it naturally.

But if the Person inoculated does not receive the Distemper in any Degree from that Operation, as sometimes falls out ; in such a Case we have no Reason to be surpriz'd, if he afterwards happen to be taken with it in the natural Way. Inoculation, like all other Applications in Physick or Surgery, will not always produce the intended Effect.

And

And no Wonder. We know from a thousand Instances, that of several Persons, equally exposed to the same contagious Disease, Part shall escape, and Part be infected ; and the same Person, exposing himself in the same Manner, at different Times, to the same Danger, shall escape at one Time, and be seiz'd at another. The same has happen'd twice in the Case of Inoculation : Two Children, who had been inoculated without any Manner of Effect, as is attested, not only by the Physician, Dr. Nettleton, but by the Certificates of the Parents themselves, were afterwards seiz'd with the Small Pox, when it raged epidemically where they were ; they had it favourably, and recover'd. The Relation sent up to me, with the Certificates, by Dr. Nettleton, was publish'd some Months ago in the *Daily Journal*, and is reprinted at the End of this Paper, the Originals being still in my Hands. And these are all the Cases of this Kind that are come to my Knowledge, except a like Case of Mr. *De Grave* the Surgeon's Daughter ; an Account of which, under the Father's own Hand, has been publish'd by Mr. *Maitland*.

In Order to come to some Determination of the second Question, *viz.* Whether the Hazard of Inoculation be considerably less than that of the natural Small Pox ? It is necessary in the first Place, to know what is the Proportion between the Numbers of those that undergo the Small Pox in the natural Way, and those that die of them. With this View,

I have

I have prov'd in my Piece* publish'd last Year, that at least a fourteenth Part of Mankind die of the natural Small Pox; and I have, I think, render'd it probable, that, of Persons of all Ages undergoing that Distemper, there die at least two in seventeen. These Deductions are drawn from the Consideration of the Bills of Mortality for 42 Years past: And from an actual Account of a great Number of Persons that underwent that Disease, as taken in several Places, by a careful Enquiry from House to House, I have there shown, that there died one in between five or six, or about two in eleven. I shall now repeat that Account with several others, which have since been communicated to me by Persons of Credit, in the following Table.

	Sick of the Small Pox.	Died
In <i>Halifax</i>	276	43
In a Part of the Parish of <i>Halifax</i> , stretching towards <i>Bradford</i>	297	59
In another Part of the same Parish	268	28
In <i>Barlland</i> , <i>Ripponden</i> , <i>Sorby</i> , and another Part of <i>Halifax</i> Parish, about four Miles from the Town	230	38
In <i>Bradford</i>	129	36
In <i>Leeds</i>	792	189
In <i>Wakefield</i>	418	57
In <i>Rochdale</i>	177	38
		In

* Letter to Dr. Cotesworth.

	Sick of the Small Pox.	Died
In Ashton under Lyne, a small Market Town in Lancashire, } including two neighbouring } Villages ——————	279	56
In Bolton, Lancashire ——————	406	89
In Macclesfield ——————	302	37
In Stockport ——————	287	73
In Hatherfield ——————	180	20
Ware ——————	612	72
Salisbury ——————	1244	165
Ramsy in Hampshire ——————	913	143
Boston in New-England ——————	5742	841
Chichester ——————	994	168
Haverford West in South Wales —	227	52
Bedford ——————	786	147
<hr/>		
Total 14559	2351	

The Result is, that as far as these Accounts can inform us, there dies nearly one out of six Persons sick of the Small Pox in the natural Way, or (more accurately) five out of thirty one: Which Proportion we must content our selves with for the present; 'till by obtaining Accounts from more Places, we may by the Largeness of the Numbers, come nearer to the true Proportion.

Such therefore being the Hazard of dying of the Small Pox in the natural Way; we come now to consider what is the Hazard of dying of the Inoculated Small Pox; in Order to which, we offer the following Lists of Persons inoculated; which we hope may be depended

pended upon, as having taken all possible Care to obtain the best Accounts that we could.

The first contains the Number of Persons inoculated to the End of the Year 1723, with the Names of the Persons that perform'd, or directed the Operation, and the Places where it was done.

*Persons inoculated in the Years 1721,
1722, 1723.*

In and about London,

BY	<i>Claudius Amyand, Esq; Principal and Serjeant Surgeon in Ordinary to his Majesty</i>	62
By Mr. Maitland, Surgeon	—	85
By Mr. Alexander Geekie, Surgeon	—	2
Mr. Geekie, Jun. Surgeon	—	1
Mr. Weymijb, Surgeon	—	5
Mr. Dover, M. L.	—	5
The Reverend Dr. Johnson	—	3

In Yorkshire, and the County of Durham, &c,

By Ditto	—	8
Dr. Nettleton	—	86

In and about Norwich,

By the Direction of Sir Benjamin Wrench	6
Dr. Bobun	4
Dr. Offley	6

C

By

By Mr. Johnson, Apothecary 1
 Mr. Brady, Apothecary 2

and to be sold at Stamford. At Stamford.

By Mr. Hepburn, Surgeon 2

In and near Portsmouth.

By the Direction of Dr. Brady, Physician 6
 to the Garrison there

Mr. Waller, Apothecary 14

Mr. Robert Barkham, Apothecary 6

Mr. Rowe, Surgeon, at Fareham 5

At Chichester.

By Mr. Smith, Surgeon 11

Mr. Dymer, Surgeon 4

Mr. Robert Baker, Surgeon in London, by
 the Direction of Dr. Whitaker 1

At Steyning in Sussex.

By Mr. William Hill, Surgeon 2

At Havant.

By Mr. Millard, Surgeon, by the Di-
 rection of Dr. Edward Bayly 3

At Winchester.

By Mr. Baonneau, Surgeon 2

Mr. Godwin, Apothecary 15

At

<i>At Rumsey in Wiltshire.</i>	
<i>By Mr. Oliver, Apothecary</i>	<u>3</u>
<i>At Salisbury.</i>	
<i>By Mr. James Elderton, M. L.</i>	<u>32</u>
<i>Mr. Goldwyer, Surgeon</i>	<u>51</u>
<i>Mr. Foulks, Surgeon</i>	<u>13</u>
<i>At Shaftsbury.</i>	
<i>By Mrs. Dorothy Ringe</i>	<u>4</u>
<i>At Haverford-West, South Wales.</i>	
<i>By Dr. Williams</i>	<u>7</u>
<i>Near Leicester.</i>	
<i>By Mrs. Roberts</i>	<u>5</u>
<i>In and about Bedford.</i>	
<i>By Mr. Daniel, Surgeon</i>	<u>10</u>
<i>Mr. Fleming, Apothecary</i>	<u>1</u>
<i>At Bristol.</i>	
<i>By Dr. French</i>	<u>1</u>
<i>At Cambridge.</i>	
<i>By Mr. Warren, Surgeon</i>	<u>4</u>
Total	474
C 2	The

The second Table contains the Number of Persons of every several Age there express'd, that were inoculated, with the Effect of the Operation.

In Order to make which the better understood, as well as for the Information of those Readers, who may have Occasion to make Use of this Practice, I shall here give some Account of what is to be done, and what is usually observ'd in Inoculation, as I have extracted it from a careful Examination and Comparison of the several Relations transmitted to me, with Regard, 1st, To the Subject to be inoculated: 2d, The Preparation: 3d, The Choice of the infectious Matter: 4th, The Operation: 5th, The Sickening, or the Symptons preceding the Eruption: 6th, The Eruption: 7th, The Running of the Incisions.

1. Great Care ought to be taken to inoculate none but Persons of a good Habit of Body, and free, not only from any apparent, but, as far as can be judg'd, from any latent Disease; for which Reason, every prudent Person will, in this Case, have the Advice and Opinion of his own Physician, whether the Subject to be inoculated, be in a fit Condition to undergo the small Pox; that so he may not have that Distemper, and a bad Constitution, or perhaps another Disease, to struggle with at the same Time; of which there have been several fatal Instances, thro' the Neglect of this Caution. In some Cases indeed it has fallen out, that the Person inoculated, has by this Means got free of another Disease, under which he labour'd before,

fore ; as sometimes happens likewise in the natural Way, though the contrary is much more frequent.

2. The Body, especially if Plethorick, ought to be prepared by proper Evacuations, as bleeding, purging, vomiting, &c. tho' in many Cases there will be Occasion for very little or none of these, it being sufficient to enjoyn a temperate Diet, and proper Regimen : But this must be left to the Judgment of the Physician.

3. The utmost Caution ought to be used in the Choice of proper Matter to communicate the Infection. It should be taken from a young Subject, otherwise perfectly sound and healthful, who has the Small Pox in the most favourable Manner. When the Pustules are perfectly matured, and just upon the Turn, or soon after, two or three of them should be ripp'd with a Glover's Needle, or small Lancet, and a couple of small Pledgets of Lint, or Cotton, are to be well moistned with the Matter, and immediately put into a little Vial, or Box, and carry'd in the warm Hand, or Bosom of the Operator, to the House of the Person to be inoculated.

4. The Incisions are usually made with a small Lancet in the brawny Part of both Arms, or in one Arm and the opposite Leg, cutting just into, or at most thro' the Cutis, or true Skin, for the Length of a Quarter of an Inch, half an Inch, or at most an Inch. This being done, one of the Pledgets moistned with the infectious Matter, is to be laid upon each Incision, and to be kept on by Means of

a Bit

a Bit of sticking Plaister laid over it, for about four and twenty Hours ; after which, all may be taken off, and the Incisions dressed with common *Diatribylon*, or with only warm Cabbage or Colewort Leaves, once a Day at first ; and afterwards, when the Discharge is considerable, twice a Day till they heal ; or only with a Linnen Roller, to defend them from the Air.

115. The Person inoculated, sometimes receives the Small Pox without any previous Sicknes, as often happens in the most favourable Sort in the natural Way. But the greater Part begin to be a little feverish, and have more or less of the usual Symptoms preceding the natural Small Pox, most commonly upon the eighth Day from Inoculation, tho' pretty often upon the seventh, and very rarely a Day or two sooner or later.

116. The Patients are sometimes taken with flushing Heats, which disappear again in a little Time, about the 4th or 5th Day ; but the Eruption of the Pustules happens generally within a Day, or sometimes two or three, after the sickening, *viz.* most commonly on the ninth Day, less frequently on the 10th, and still less on the 8th or 11th ; in a few Cases it has appear'd on the 7th or 12th, in one Case on the 18th, in one on the 24th, in one on the 6th, and in another on the 3d. The last Patient but one had the confluent Sort, and dy'd : The last was very full of the distinct Kind, and recover'd.

7. The Incisions begin to grow sore and painful about the 4th or 5th Day, and about the

the 6th, 7th, or 8th, they begin to digest, and run with a thick purulent Matter, which gradually encreases till about the Turn of the Distemper, during which Time the Wounds grow wide and deep; afterwards the Running gradually abates, and they usually heal up in about a Month, sometimes in three Weeks, though in some they continue running five or six Weeks, or something longer. The greater the Discharge is by the Incisions, the more favourable the Distemper is found in other Respects. When the Inoculation does not take Effect, the Incisions heal up in a few Days, like a common Cut. Where Children happen to have Issues before Inoculation, they begin in a few Days to run in a much greater Quantity than usual, and continue so doing, in the same Manner as the Incisions, during the State of the Distemper, after which, they return to their ordinary Course.

In this Table, by having an imperfect Small Pox, is meant, the having some slighter Eruption, of but a few Days continuance, but this attended with an Inflammation and Running of the Incisions for the usual Time, and generally preceded by some of the common Symptoms of the Small Pox; this being esteem'd, by the Accounts from *Turkey*, and our own Experience at Home, as far as it goes, to be an effectual Security against having the Small Pox afterwards in the natural Way.

Under the Article of *No Effect*, are comprehended, not only all those Persons upon whom

whom the Operation produced no Effect of any Kind, but also those upon whom the Eruption was so slight, and the Running of the Incisions so little in Quantity, or of so short a Duration, as to render it justly doubtful whether it would amount to a Security, or no. Two of these were known to have had the Small Pox before, and were inoculated only for Experiment Sake, and several of the rest underwent the Operation upon a Doubt whether they had had the Small Pox before or no, the Distemper which they had undergone in the natural Way, having been so slight and so favourable, as to make their Parents, themselves, or their Physicians, to suspect that it was not the true Small Pox. But there were some, upon whom Inoculation did not produce the Distemper, tho' there was no Suspicion of their having had it before.

Under the Head of dying after Inoculation is compriz'd every Person, as far as I have been been able to learn, that has either by the Friends, or Adversaries, to this Practice, been suspected to have dy'd of Inoculation.

Ages.	Persons inoculated.	Had the Small Pox by Inoculation.	Had an imperfect Small Pox by Inoculation.	No Effect.	Suspected to have died of Inoculation.
Und. 1 Year	11	11	00	00	00
1 Year to 2	15	14	00	01	02
2	3	31	00	00	01
3	4	41	38	00	01
4	5	33	31	00	01
5	10	140	137	01	02
10	15	82	76	00	06
15	20	56	50	01	05
20	52	62	50	03	09
Age unknown.	03	02	00	01	00
Total	474	440	05	29	09

From this Table it appears,

1. That of 474 Persons inoculated, 440 have receiv'd the Small Pox from that Operation; to which if it be thought proper to add the five, who had an imperfect Small Pox by Inoculation, the whole Number will be 445.

2. That the Operation has oftner fail'd of taking Effect upon those of more advanc'd Ages, than upon young Children, as was naturally to be expected from the Reasons mention'd above; it being more likely that Persons of such Ages have had the Small Pox before, than Children.

3. That however more favourable the natural Small Pox generally is to Children than grown Persons, yet Inoculation has been attended

tended with better Success in the latter than in the former ; and in particular, that out of 50 or 53 Persons of 20 Years of Age and upwards, that have had the Small Pox by Inoculation, not one has miscarry'd.

4. That 9 is the Number of Persons, who have been suspected to have died of Inoculation ; so that, if this Operation was really the Cause of all their Deaths, the Hazard of dying of the inoculated Small Pox must be that of 9 in 440, or 445, that is, of one in 49, or 50.

But the curious Reader will doubtless expect, that I should give him some farther Information, in Order to enable him to judge, whether, or no, all these Persons really died of Inoculation. This I shall endeavour to do with all the Fidelity, that a Case of so much Importance requires, and with such Impartiality, as to give no just Cause of Offence to either of the contending Parties. With this View I shall here set down the Name of every Person, that has been suspected by the one Side to have died of Inoculation ; and on the other Hand, I shall communicate the Accounts of those Cases, as they have been transmitted to me by the Gentlemen concern'd in inoculating those Persons, subjoining every one's Name to his own Account.

1. The first is the Case of the Honourable Mr. *William Spencer*, aged about three Years, who was inoculated in Town, *April 2d, 1722*, and died on the 21st of the same Month. The Eruption appear'd on the 9th Day ; he had a fair and full Eruption of Pustules of

different

different Sorts, observing the common Periods and Symptoms of Inoculation; and after the greatest Part of the Pustules were dry'd off, he was seiz'd, on a sudden, on the 21st Day, of a convulsive Fit, of which he died. The Occasion of his Death may be farther enquir'd into, from the printed Account. Mr. *Maitland. Vid. Maitland's Answer to Dr. Wagstaffe.*

2. Miss Rigby, aged a Year and six Months, was inoculated in *London, April 29, 1722.* She had a fair Eruption of Pustules, appearing on the eighth Day, and a much more favourable Disease than her Sister, who recover'd: But one of her Arms swell'd and imposthuma-ted, (as is usual sometimes in the natural Small Pox) and whether it was by that, or breeding her Teeth (for she cut some Teeth about that Time) is uncertain; however she continu'd sickly, feverish and heftick, and died about 8 Weeks after the Inoculation. *N. B. Mr. Maitland declin'd the inoculating her with her Sister; but the Father having had a favourable Account of this Practice from the Turkey Merchants, would have it done; and there was another unlucky Circumstance in this Affair; Mr. Maitland was seiz'd with a violent Fever for the Space of three Weeks, from the Day she was inoculated, which, he thinks, might in some Measure have occa-sion'd the Soreness of her Arm, no such Thing having happen'd where he has been able to attend. Mr. Maitland.*

3. Lord Bathurst's Servant, aged 19, was inoculated in *London, April 30, 1722.* He

was lately come from the Country into my Lord's House, where five of his Lordship's Children were then sick of the Small Pox: He was ill for some few Days before he was inoculated, and his Complaints were such, that 'twas apprehended 'twould be the Small Pox. Therefore he was remov'd to a Nurse's in *Swallow-Street, Piccadilly*, who provides for Persons in that Way. By Mr. *Mead*'s Directions he was blooded, and vomited, and took several cordial Powders; whereby being restor'd to Health, it was thought proper to inoculate him. The Small Pox appear'd on him the 9th Day after Inoculation, of the favourable distinct Kind, whereby his Complaints were allay'd; but returning the next Day with bilious Vomitings, frequent Stools, and a *Delirium*, a great many of the fluxed Kind then appear'd. These continu'd more or less upon him, notwithstanding all the Medicines which Dr. *Arbutbnot*, and afterwards Dr. *Mead* in Conjunction with him did prescribe. He died on the 7th Day from the Eruption. His Lungs were found inflam'd and mortify'd. Serjeant *Amyand*.

4. Miss *Rolt*, aged between 9 and 10 Years, was inoculated in *London*, together with a Child of between 2 and 3 Years of Age, both with the same Matter, Sept. 25, 1723. Then both began to sicken on the eighth Day from Inoculation, and on the 10th the Small Pox appear'd on both of the distinct Kind. The Boy recover'd. Miss *Rolt*, the Day before the Eruption, complain'd of great Pains in her Shoulders, Elbows and Knees, and

and the Fever continuing, the Small Pox flux-
ed upon her the 3d Day from the Eruption.
Sir *Hans Sloane* and Dr. *Arbuthnot* attended her.
She went thro' the Distemper with Ease; the
Small Pox began to turn on her the 7th
Day; but 'twas not dry'd all over 'till the
14th. The Fever, that arose then, occa-
sion'd her being blooded, and soon after
several Tumours appear'd in the Neighour-
hood of several Joints, which were open'd.
The Fever still continu'd, and more suppu-
rated Tumours were daily appearing, which
were discharg'd as soon as possible. Some-
times she was troubled with a *Diarrhoea*,
whereby, as well as by the Suppuration of
20 or 30 Boils that were open'd, she was
spent, so that she dy'd the 27th of *November*
following, that is 9 Weeks after the Inocu-
lation. Her Incisions continu'd running to
the last. By all Accounts, she had a bad
Habit of Body; she struggled with the Jaun-
dice the Year before, during six Months; it
shew'd its Head again in the Spring, but was
soon conquer'd; and as I have been inform'd
of late, she recover'd of the Measles but 10
Weeks before she was inoculated. Had I been
inform'd of this before, as well as of her ir-
regular Life, no Ways suited to one of her
Years, I would hardly have adventur'd the
Inoculation on her; tho' all that Time, she
seem'd to me in a perfect State of Health, and
perfectly recover'd of the Measles, which she
had had in the most favourable Manner.
Serjeant *Amyand*.

5. Miss

5. Miss *Brookbank*, aged 15 Months, was inoculated at *Ealand* near *Halifax*, in *June* 1723. She dy'd suddenly on the 11th Day from the Eruption. *Vid. Dr. Nettleton's*, and the Parent's Account at the End of this Paper.

6. Miss *Betty a Court* 4 Years of Age, inoculated at *Ivy-Church* near *Salisbury*, *Sept. 20, 1723.*

She may very well be said to be born an infirm Child, for it is notoriously known, that her Mother was so ill almost all the Time of going with her, that her Midwife often despair'd of her Life, as believing she would not go out her Time. The Child, two or three Months after she was born, was seiz'd with an *Ophthalmia* in both Eyes, and after that she had a Humour to a great Degree, which broke out under her Chin, her Throat being very raw from Ear to Ear, which by purging, cutting an Issue, &c. went off. But still at Spring and Fall she was subject to these Humours, but to a less Degree than at first. Her Issue by the Negligence of the Nurse, was dry'd up some considerable Time before the Child was inoculated, as Mr. *a Court* himself told me; and that the Child had something of these Humours broke out upon her, not above 3 Weeks before the Operation was perform'd, I was assur'd by the Servants in the House.

She was inoculated with her four Brothers and a Servant Maid, all with the same Matter, from a Boy about 8 or 9 Years old, that had a kind Sort. I heard nothing of any of their Complaints 'till the eighth Day, and

and then one had a Pain in his Head, another in his Back, one was taken with a Shivering, another with a Vomiting, and in short every one of them had something or other of the Symptoms of the Small Pox, except the Maid Servant. Miss's Complaint was chiefly in her Head and Back; the next Day, after the Symptoms came on, she was flush'd in her Face rather like an *Eryspelas* than the Small Pox, and in 24 Hours after that the Pustules appear'd very thick in her Face, her right Arm and right Thigh, and seem'd to come on pretty well. They were as full on her Breast, the *Abdomen* and Inside of the Thighs; yet they continu'd always flat and languishing, without coming to Maturity, notwithstanding all the Doctor could do to raise them. The Fever encreas'd on her every Day, and she grew more and more restless, tho' her Incisions discharg'd after a wonderful Manner. For all round each Arm, from her Shoulders to her Elbows, they ran like large Blisters, being as thick of Pustules as they could stand under the Dressings, which gave us some faint Hopes she might get over it, 'till a Day or two before she died. The Pustules on her Face, her right Arm and Thigh, turn'd the 7th and 8th Day; but then the second Fever came on, and it getting Ground every Day, she continu'd in a languid State, and grew weaker and weaker, 'till she expir'd, which was the 22d Day from the Incisions. Mr. Goldwyer.

A Daughter of Mr. a Court's, 4 Years of Age, was inoculated under a very ill Habit
of

of Body, and subject to inflammatory cutaneous Eruptions from its Birth. Persecuted always by a heick Heat, the Child was thin and weak, too weak, indeed, to withstand the Malignity of the confluent Kind she labour'd under. But the four Sons inoculated at the same Time, with Matter taken from the same Person, had Diseases of the distinct Kind, and are recover'd, though not the most proper Persons for this Operation. Dr. Hele, Physician in *Salisbury*.

2. ~~Mr.~~ *Francis Bacon*, Esq; 17 Years of Age, was inoculated at *Earlham* near *Norwich*, with his Sister, Sept. 11th, 1723. The Incisions did not inflame, but healed in about 10 Days, like a common Cut: No Fever, nor any Sort of Eruption follow'd; he was kept in breathing Sweats in Bed the 9th and 10th Day; a Day or two after he was purged, and so a 2d, and a 3d Time.

On the 1st of *October*, a second Attempt was made with Matter taken from his Sister; the Success was the same; he was purged again as before, and releas'd from his Confinement. During this whole Proceeding, he slept very well, had a very good Appetite, and made not the least Complaint, 'till upon taking the Air in a very sharp Day, towards the latter End of *October*, he grew feverish that Night, with Pains in his Head and Limbs; his Pulse was strong, his Urine high colour'd, with a good Sediment; he was not very hot, nor thirsty, but inclinable to sweat; the greatest Uneasiness he felt, was from a decay'd Tooth, which he was forc'd to

to have drawn. This Disorder went off in 3 Days by natural Sweats: All that was given him, was 3 or 4 Papers of *Pulv. e Chel. Cancer. comp. with Castor, &c.* he being sometimes a little low spirited. A Faintness remain'd upon him, four or five Days after the Fever went off, with want of Appetite: But upon taking a little Rhubarb once or twice, he soon recover'd his Stomach, and seem'd perfectly well, when he return'd to *Cambridge*, about the Middle of *November*. The only Difference I observ'd in him, was, that he was paler than usual, which I imputed to a long tedious Confinement and a spare Diet, together with some little Anxiety from the Disappointment he had met with. What happen'd at *Cambridge*, I shall say nothing to, leaving that Part to the Physician that attended him; I shall only observe, that this young Gentleman has been very subject to Fevers, attended with nervous Symptoms; and that a Person nearly related to him, who saw him in both Cases, told me, that this last Illness differ'd in nothing, except in the Violence of the Symptoms, from a Fever he was seiz'd with about three Years ago.

Dr. Offley.

This young Gentleman was taken ill of a nervous Fever, such as he had been ill of several Times before, about *Christmas* last, and dy'd on the 5th of *January*. No Spot, nor Eruption of any Kind appear'd upon him; but a little before his Death, a great Quantity of Blood and Matter gush'd out at his

E

Nostrils.

Nostrils. Mrs. Bacon, Mr. Professor Green,
Dr. Ahenburst.

8. *Mary Waller*, five Years and a half old, was inoculated near Gosport, Oct. 18, 1723; together with two other Children, all with the same Matter. The other two ficken'd on the 7th Day, the Small Pox appear'd on the 9th, and they did very well: But this Child ficken'd at the Completion of the 4th Day, and the Eruption appear'd on the sixth. She had the confluent Kind all over her, with many Purples, and died on the 18th Day after she was inoculated. From the * Earliness of her Sickening, and the Eruption, it is not improbable, that she had taken the Infection the ordinary Way before. This Opinion is farther strengthen'd by the following Circumstance. A Maid was violently seiz'd with the Small Pox in the common Way, a little before the Operation, and continu'd there two Days in a narrow Room, her Breath smelling strong of the Infection, and the Child was sometimes with her. To what is said, may be added, that the Child was leprous. *Mr. Waller.*

9. *Miss Brailsford*, aged 2 Years, died the 26th Day after Inoculation, of a Worm Fever. The Small Pox were all shal'd and gone off. *Dr. Dover.*

From the Facts here laid down, I am sensible the Inoculators will raise several Objections against the Estimate of the Hazard of Inoculation, which I have given above, and to do them Justice, I am obliged to lay what

* Vid. pag. 14.

what are, or may be their Arguments, before the World.

1. They will maintain that the 4th, 6th, and 8th Cases ought to be left out of the Computation, because the Patients were unhealthy Subjects, and therefore no Argument can be drawn from their dying, to increase the Hazard of those who shall be inoculated in perfect Health, pursuant to the Caution above given ; and consequently, that the Hazard to heathful Persons, can at most be reckon'd to be no more than that of six in 440, or 445, that is of one in 73, or 74.

2. They may object, that the seventh Case is intirely out of the Question, the Person having been well so long after the Operation, and in his last Illness, which happen'd near three Months after the second Inoculation, having had no Manner of Appearance of the Small Pox, nor any other Symptons, (as appears by the Acknowledgement of his nearest Relations and others,) but what he had had more than once in former Fevers; except only the Eruption of Blood and Matter from his Nostrils, a little before his Death ; which often happening in other Cases, seems not to be justly chargeable upon Inoculation, especially at so great a Distance of Time from that Operation.

3. They may justly plead, that in a Comparison between the Hazard of the natural and inoculated Small Pox, either only such, as die in the Course of the Distemper, ought to be set down on both Sides ; or that, if in the Case of Inoculation, I will charge the

Consequences of the Operation, in occasioning other Diseases, of which, the Patients happen to die after the Small Pox are entirely gone off, that I ought to do the same in the Case of the natural Small Pox, it being notorious, that this Distemper frequently occasions other Diseases, of which the Patients die a considerable Time after: And if I cannot do this in the natural Way, because the Death of the Patient is, in this Case, set down in the weekly Bills, &c. to the other apparent Disease, then I ought to omit all such Cases in the Way of Inoculation, and consequently the 2d, as likewise, the 4th and 7th for this Reason, besides the others before given, ought to be left out of the Estimate.

4. They may likewise object to the 1st, 3d, and 5th Instances, from the Circumstances mention'd in the Account of those Cases, and consequently will not allow of more than one Case, where the Patient can be justly said to have died of Inoculation: And perhaps even that will be disputed.

How far these several Objections are of Weight, is submitte to the Determination of those, who must and will judge for themselves, that is, to every intelligent Reader, who being thus appriz'd of the Facts, may easily, by striking off such of the Instances given above, as he thinks reasonable, form to himself a Judgment of the Hazard of Life in this Operation: And to such therefore I leave it. But to save him some little Trouble, I shall only observe, that if upon the Reasons

Reasons here mention'd, he sees Cause to except one Person out of the Number of those that are suspected to have died of Inoculation, the Hazard must then be estimated to be that of one in 55, or 56.

If he except	The Hazard will be
Two	63, or 64
Three	73, or 74
Four	88, or 89
Five	One in 110, or 111
Six	147, or 148
Seven	220, or 222
Eight	440, or 445.

It may perhaps be expected from me by some Persons, that in giving Account of the Miscarriages of Inoculation, I should not confine my self barely to Loss of Life; but that I should likewise relate all the lesser Accidents, as the breaking out of Boils, &c. that have follow'd upon that Practice, where the Patient has escap'd with his Life. But to such I must reply, that in a Design to make a Comparison between the Hazard of the Distemper in the natural Way, and when given by Inoculation, it would be improper and useless to insert such an Account, if it could be obtain'd, on the one Side, unless it were done likewise on the other. And every Physician knows, that such like Accidents frequently happen upon having the natural Small Pox, which it would be next to impossible to make a perfect Collection of, and as impracticable to set that Collection in such a Light,

Light, as would be requisite, in Order to make a Comparison between it and the Accidents owing to Inoculation. For this Reason, I limit my Comparison to the Hazard of Life itself, and see no Reason to doubt, but that such Way of having the Disease as less endangers Life, must be likewise more favourable in all other Particulars. This is affirm'd by the Practisers of Inoculation, and their Adversaries, I think, do not offer to deny it.

Before I conclude, it may not be improper, to take some little Notice of an Article lately inserted in one of our publick Papers, that in the Year 1722, there died of the Small Pox, within the Bills of Mortality, 2167 Persons, and that in the Year 1723, *the Year of Inoculation*, there died 3271, exceeding the former Number by 1104.

With what View this was publish'd, is best known to the Authors of that, and some other such like Articles: But the Use that I have heard made of it in Conversation, is, that inoculating the Small Pox, contributed very much to the spreading of the Distemper, and consequently to the great Increase of the Mortality above-mention'd.

To obviate, which, I must take Notice in the first Place, that by the Accounts now lying before me, it appears, that in the Year 1722, there were 63 Persons inoculated within the Bills of Mortality, and in the Year 1723, which this Writer calls *the Year of Inoculation*, the Number inoculated was 68, just five more than the Year before.

2. That

2. That as there died of the natural Pox, 3271 Persons in the Year 1723, the whole Number sick of the same Disease that Year, must have been, by the Proportion laid down before, of six and something more to one, about 20000 Persons, and consequently the spreading of the Distemper by Means of Inoculation, could bear no greater a Proportion to the natural Propagation of it, than that of 68 to 20000, or of one to 300. For it will not, I suppose, be pretended, that the Small Pox given by Inoculation, is more infectious than the natural Sort. I believe every Person, who has been acquainted with both, will think it less so, in Proportion, as it is more favourable.

Lastly, if I have not already taken up more of the Reader's Time upon this Head, than the Thing is worth, I would desire him to cast his Eye upon the following Account of the Mortality of the Small Pox, for several Years before Inoculation was introduc'd among us, in some of which, he will find it greater, and in others, nearly equal to the last.

Out of every thousand Persons that were bury'd, there died of the Small Pox,

In the Year	In the Year
1668	115
1674	118
1681	125
1683	102
1685	107
1710	127
1714	106
1719	114
1723	112

The

The Consideration of the Bills of Mortality puts into my Head another Remark, which I must beg leave to make.

For these ten Years last past, there have died of the Small Pox, within the Bills of Mortality, at a *Medium*, 2287 Souls *per Annum*. Let us now consider a little, what may be the Consequence, in Case Inoculation should hereafter become a general Practice. If we allow all the Opposers of Inoculation contend for, we shall find but one in 49 to die of Inoculation, and in the natural Way, we have shewn it to be one in six: It follows, that if we substitute Inoculation for the natural Way, the Number of the Dead would be reduc'd seven Parts in eight, and consequently 2000 Persons, that are yearly cut off, within the Bills of Mortality alone, and those generally in the Beginning, or Prime of Life, might be preserv'd to their King and Country. Let the warm Opposers of Inoculation, lay their Hands upon their Hearts, and consider, whether the saving of so many Lives, be contrary to any Precept of Law, or Gospel. We have been told indeed, and from the Pulpit too, that this Practice came from the Devil: But if it prove thus beneficial and salutary to Mankind, I, for my part, shall make no Scruple of ascribing it to a greater and a better Author; and undoubtedly, all sober and thinking Persons will judge and believe, that the making known to the World, a Method of preserving their Lives from one of the most terrible Diseases in Nature, can be owing

ing to no other, than the kind and tender Providence of the great Creator and Preserver of Mankind.

*Part of a Letter from Dr. Nettleton to
Dr. Jurin.*

Halifax, Oct. 28, 1723.

S I R,

I Was very much surpriz'd to find it inserted in several of the News Papers of the last Post, as a current Report, that I had been lately call'd to a Patient, who was inoculated about a Year ago, and who is since dead of the natural Small Pox; and I cou'd not omit this first Opportunity to assure you, that the said Report is entirely false, none who have been inoculated, having died of the natural Small Pox afterwards, neither have we any Reason to think worse of the Practice here, than when I writ to you last, tho' we were far from expecting that any Thing, in this World, should be so compleat, as to be free from all Inconveniencies and Misfortunes. The Method has not been attended with any Disaster in these Parts, excepting only one, which, I suppose, gave Rise to these Reports in the publick Papers, and of which, I shall give you a very particular Relation; for I shou'd be highly blameable, if I did either conceal, or misrepresent any Circumstance relating to a Matter of so great Consequence to Mankind.

About

About four Months ago, Mr. *Brookbank of Ealand*, desir'd me to inoculate the Small Pox upon a Daughter of his, aged about 14 Months, the Distemper being then in the Neighbourhood, and several having died in the natural Way; it was accordingly done, and also upon some others, at the same Time, who did very well; but in this Child, the Symptoms were very severe, and when the Pustules appear'd, they were very numerous, tho' distinct, and not so kindly as we cou'd have wish'd, but rather of the crystalline Sort; however, she went on as well as we cou'd expect to the eleventh Day, the Pustules crusted, and were many of them gone, and the Child was very cheerful and brisk, and play'd about the Room, insomuch, that we all concluded the Danger to be over: ut she died suddenly in the Night, without any Notice of her being worse; whether her Death was from the Small Pox, or some other Cause, occasioning some sudden Convulsion or Suffocation, I will not presume to determine.

A second Letter from the same Gentleman to Dr. Jurin.

Halifax, Nov. 11, 1723.

SIR,

THERE have been some Occurrences here, in the Method of Inoculation, which have been misrepresented, of which it is necessary the Publick should have a true and

and impartial Account. It was altogether a Mistake to affirm, that one who had been inoculated a Year ago, was lately dead of the natural Small Pox: But it is very true, that one who had the Small Pox by Inoculation did die; and also, that two others, whom we attempted to inoculate, but without Effect, had the Distemper afterwards in the natural Way. The Facts are contain'd in the following Certificates, which will be attested upon Oath, by the Parties concern'd, whenever it shall be requir'd.

We have Reason to believe, that the Death of the Child hereafter mention'd, was owing to some other Cause besides the Small Pox; but if, to avoid Dispute, we yield that Point, it must then be acknowledged, that out of Seventy four, who had the Small Pox by Inoculation hereabouts, one has died; all the rest are at this Time alive, and in good Health.

We have been told by all those, who have writ upon the Subject of Inoculation, that it may sometimes fail, and produce nothing at all; in which Case, it can be no more Security against the Distemper, than if nothing had been done. Most of those who have been inoculated here, have been as much expos'd, as these two Children who have taken the Infection since; but we have not yet found, that any, who had the Small Pox by this Method, tho' in the lowest Degree, ever had it again in the natural Way. If any such Thing should happen, I shall not fail to advise you of it. There has nothing occurred

here, so far as I know, that can possibly be represented to the Disadvantage of the Practice, besides what is contain'd in the enclosed Papers.

I am, SIR,

Your most obedient humble Servant,

Thomas Nettleton.

Ealand, Nov. 8, 1723.

These may certify, that in *February, 172 $\frac{1}{2}$* , the Small Pox was inoculated upon two of our Daughters, the one about five, and the other four Years of Age, who had, as far as we could judge, the true Small Pox, through which Distemper they got with very great Ease. Some time after, the same Operation was perform'd upon a Boy of ours, aged about three Years, but without any Effect: The Child was not in the least disorder'd, had no Appearances upon his Skin, neither did the Places of Incision swell or inflame as in the other Children, so that we then concluded it would avail him nothing. About five Months ago, the Distemper being then in the Neighbourhood, and several having dy'd of it in the natural Way; we had the Small Pox inoculated upon a Daughter of ours, aged about 15 Months; with this Child the Distemper was more severe than usual; she was very full, tho' the Pustules were distinct. She went on as well as we cou'd expect, and on the eleventh Day, was very cheerful and brisk, free from Heat or Thirst, and the Small Pox were many of them crusted and gone

gone off, insomuch, that we thought her out of Danger: However, that Night she died suddenly, even before any Alteration for the worse was perceiv'd by those that attended her. This unhappy Event may possibly expose us to the Censure of the World; but the Consciousness of having done our Duty in using the most likely Means, to preserve Life in a Time of common Danger, makes us easy and content. About ten Days after this, our Son abovemention'd, upon whom the Inoculation had no Effect, was seized in the natural Way, had a very kindly Sort, and recover'd very well. The Distemper was, at that Time, very rife in two or three neighbouring Families, insomuch, that none escap'd, who had not had it before; amongst these, there were six Persons who had the Small Pox by Inoculation, some of which were constantly, and the rest frequently, in Company with those that were sick of the natural Sort, without being any Way affected.

To the Truth of the above, we subscribe.

To the above written Particulars, attest the Nurse and Maid, who attended the Children, during their Illness.

*Joseph Brooksbank,
Eliza. Brooksbank.*

*Eliza. I Brooksbank,
Eliza. X Mellar.*

These

Halifax, Nov. 5, 1723.

These may certify, that at our Request in February 1723, the Small Pox was inoculated upon two of our Children, the one a Boy aged about 5 Years, the other a Girl, about 3 Years old. The Girl, in a Week's Time, began to be very feverish and ill, and after 2 or 3 Days the Small Pox appear'd: They rose very round and large, tho' but few in Number, and she soon recover'd. The Boy was no Ways affected, had no Manner of Illness that we could perceive, nothing appear'd upon his Skin, neither did the Places that were cut, look red and angry, as they did in the Girl: But about a Week or ten Days after his Sister recover'd, he fell ill of the Small Pox, had more in Number, and was much worse than she was, but after some Time recover'd very well.

As Witness our Hands,

Test.

Mariah Michell,
Thomas Thorp.

William Clark,
Phoebe Clark.

P. S. It is to be observ'd, that these two Children were not inoculated with the same Matter. The Girl was from one, that had a very favourable Kind in the natural Way. The Boy was from one that was inoculated; but I had the Misfortune to come too late; the Pustules were wither'd, and almost gone, and the Matter was chiefly taken from the Incision in the Arm. I did not think necessary to mention this Particular, in the Account I gave of this Boy formerly, because I could

I could not conclude from one Tryal, any Thing certainly. It is now very well known, that the Matter taken from the Pustules of the inoculated Small Pox, will convey the Distemper, as well as the natural; but I believe, that which runs from the Incisions will not. I can give no Account how the Operation happen'd to fail in Mr. Brookbank's Boy; for two other Children were inoculated at the same Time, with the same Matter, in whom it succeeded very well.

E R R A T A.

Page 20 Line 9, read Dr. page 24 Line 12,
read 7.

F I N I S.



ADVER.

ADVERTISEMENT.

ALL Persons concern'd in the Practice of inoculating the Small Pox, are desir'd to keep a Register of the Names and Ages of every Person inoculated, the Place where it is done, the Manner of the Operation, the Days of sickening and of the Eruption, the Sort of Small Pox that is produc'd, and the Event.

Where the true Small Pox is not produc'd by Inoculation, it will be of Use to take particular Notice, whether the Patient had any other Kind of Eruption, what Symptoms preceded or attended it, whether the Incisions inflam'd and run, and for what Time their Running continu'd.

In Case any Person shall happen to die after Inoculation, either in the Course of the Small Pox, or after they are gone off, it is desir'd that a particular Relation of the Case may be made, and attested, if it be judg'd necessary, by the nearest Relations of the Party deceas'd, or by other credible Persons, that were Witnesses to the Fact.

They are intreated to send these Accounts, or an Extract from them, comprehending all Persons inoculated from the Beginning, to the End of the present Year, to Dr. *Jurin*, Secretary to the Royal Society, some Time in *January*, or at farthest in *February* next, that so the Result of them may be publish'd early in the Spring.

